



THE CASE FOR PLACE-BASED

The Star with My Name: The Alaska Rural Systemic Initiative and the Impact of Place-Based Education on Native Student Achievement

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The year 1784 marked the beginning of Western efforts to divest the Native People of Alaska of their identity and resources under the guise of formal education. Russian fur trader, Gregorii Shelikhov, established a trading post on Kodiak Island and after slaying and taking hostage many of the Natives, opened a school to teach their children arithmetic, the Russian language and “the precepts of Christianity.”ⁱ What Shelikhov and those who followed did not anticipate in their quest to “Christianize” and “civilize” the Alaskan Natives was the strength and resiliency of an indigenous knowledge system that had been in existence for thousands of years. This system was rooted in a deep understanding of and respect for the natural world and the natural order of life. It did not require textbooks, but relied on unwritten, collective wisdom passed from one generation to the next through stories, observation, and practice. It was a system that enabled Native peoples to flourish in a land where survival depended on intimate knowledge of and harmony with the environment. Eben Hopson, former Mayor of North Slope Borough in Barrow, Alaska, described the traditional knowledge system of the Inupiaq in this way:

For thousands of years, our traditional method of socializing our youth was the responsibility of the family and community.... Boys and girls began their education with their parents and, by the time they reached their teen years, they had mastered the skills necessary to survive on the land here. From that time forward, the youth—with his family and within his community – devoted his attention to his intellectual and social growth.ⁱⁱ

After nearly two centuries of denial within Western education institutions, the indigenous knowledge systems of Alaska’s Natives are being recaptured through the work of the Alaska Rural Systemic Initiative. These knowledge systems, coupled with the best of Western science, form the foundation for a new type of education—one that is place-based, culturally responsive, academically rigorous, and capable of propelling the achievement of Native children forward.

Today, Alaska’s 586,000 square miles are home to some 245 communities, 240 of

which are small, isolated villages. Poverty levels range as high as 57% with most villagers relying on subsistence farming and hunting. There are six major ethnic regions—the Southeast, Athabascan, Inupiaq, Yup’ik, Aleut and Alutiiq—in which at least 20 Native languages are spoken. In many of the villages, English is not the primary language.

Alaska’s 279 rural schools enroll approximately 33,666 students and employ 2,988 professionals. Seventy percent of the state’s students are enrolled in the five largest of its 54 school districts. Of 506 schools, 135 have fewer than 50 students; 82 enroll 25 or

fewer students. Twenty percent (100) of the schools employ three or fewer teachers (36 schools employ one teacher; 40 employ two teachers; 24 employ three). Nearly one-fourth (33,368) of the state's 134,358 students are Alaska Natives (23.4%) or American Indians (1.4%). At the same time, only three superintendents and fewer than 5% of teachers are Alaska Native or American Indian.ⁱⁱⁱ

Most of Alaska's schools are in remote regions with no roads and no other formal educational opportunities for children. The North Slope Borough School District, for example, enrolls fewer than 2,200 students in 10 schools and covers 88,000 square miles. If it were a separate state, it would be the nation's twelfth largest. The Lower Kuskokwim School District, with 3,700 Yup'ik Eskimo students and 29 schools, spans 44,000 square miles, an area roughly the size of Ohio. Yukon-Koyukuk School District, with 12 schools and 495 students, covers 65,000 square miles.

About 30% of Alaskan students who enter high school do not graduate. In urban areas, that figure reaches 60% for Natives, while in rural areas only 12 to 15% do not graduate. However, lower-than-average student achievement levels counter the high rural graduation rate.^{iv} Many Native, rural high school graduates read below the 6th grade level.

Angayuqaq Oscar Kawagley, an indigenous educator, co-director of the Alaska Native Knowledge Network, and faculty member of the University of Alaska's School of Education, explains the dilemma of Alaska Native education as follows:

The incursion of Western society on indigenous peoples brought about many cultural and psychological disruptions in the flow of life in traditional societies.... Since the

inception of modern education in the villages, the curricula, policies, textbooks, language of instruction and administration have been in conflict with the Native cultural systems. The modern public schools are not made to accommodate differences in Native worldviews, but to impose another culture that is Western. This has had a confusing effect on the Native students. Alienation and identity crisis of youth and their continual search for meaning are a condition of Native life today. New images of modernity collide with traditional symbols, values and beliefs.^v

Testing and Accountability

In 1991, Alaska moved to bring higher standards and accountability to its public schools. Over the next three years, the state developed and adopted as voluntary guidelines for schools, content standards in ten core subject areas. Subsequently, Benchmark Examinations in reading, writing and mathematics for grades 3, 6, and 8 and a High School Graduation Qualifying Examination were developed to determine how well students were mastering state performance standards. Between 1995 and 1996, the state shifted from using the Iowa Test of Basic Skills in reading, language arts and mathematics in grades 4, 6 and 8, to the CAT-5 in the same subjects in grades 4, 8 and 11. In 2000, the CAT-5 was replaced by the CAT-6 (TerraNova) norm referenced tests, administered annually in odd-numbered grades while the Benchmark exams are used annually in even-numbered grades. These exams are part of Alaska's statewide Quality Schools Initiative.

School Reform Through Place-Based Learning

In 1995, four years into the state's standards movement, the Alaska Federation of Natives, the University of Alaska and the Alaska

Department of Education and Early Development launched a 10-year rural school improvement effort, the Alaska Rural Systemic Initiative (AKRSI). The AKRSI pointed to “the continuing inability of schools to be effectively integrated into the fabric of many rural communities after nearly 20 years of local control” as an indication of “the critical need for a broad-based systemic approach to addressing educational conditions in rural Alaska.” AKRSI was “to formulate a renewed educational agenda regarding the structure, content and processes that are needed to increase the involvement of Alaska Native people in the application of Native and non-Native scientific knowledge...[and] to develop the untapped potential of indigenous knowledge systems as a foundation for rural/Native education in general, and science education in particular.”^{vi} With support from the National Science Foundation and the Annenberg Rural Challenge (now the Rural School and Community Trust), place-based education was officially re-introduced into Alaskan rural education.

AKRSI set out to document indigenous knowledge systems and develop pedagogical practices and curricula to integrate them with Western knowledge systems. An early step was to form the Alaska Native Rural Education Consortium. This was followed by the Alaska Education Summit of 1996, to engage the community and local educators in the reform process. The efforts to maximize broad based support continued thereafter with annual conferences and forums, including the Standards Action Forum in 1997 and the Native Educators Conference in 1998.

AKRSI took additional steps to broaden the public support needed for the success of place-based education in Native communities. National Public Radio, Public Radio International and Voice of America broadcast AKRSI news nationally and internationally.

These broadcasts and a half-hour video on Native Alaskan education raised public awareness of AKRSI objectives and goals within Native rural communities.

Recognizing that “culture is not a subject matter but a pathway,”^{vii} the project’s lifeblood would be in its continued and deep involvement of indigenous people and the elders in particular.

Phase I of the AKRSI project (1995-2000) was organized into five major initiatives:

Native Ways of Knowing and Teaching was inspired by the fact that there had been no documentation and validation of the traditional ways of teaching and learning that was “appropriate to the integration of indigenous knowledge in a Western-oriented educational system.” Teachers used Native Alaskan cultural standards and related pedagogical practices as the framework for integrating indigenous knowledge and use of the physical environment into a Western-oriented educational system. Insights gained from this work were applied to pre-service and in-service preparation of teachers for rural schools.

Culturally Aligned Curriculum Adaptations was intended to develop, in cooperation with participating school districts, a comprehensive, culturally aligned curriculum framework that balanced and integrated Native and non-Native knowledge and skills. The structure of the curriculum, the teaching context, and assessment practices gave cultural appropriateness the same level of attention as content and methods. Curriculum development processes and related teacher education efforts were decentralized as much as possible to ensure local input and shared control over decision-making and implementation. Students in this initiative were required to demonstrate their competence in state and cultural standards through projects, exhibitions and portfolios.

Indigenous Science Knowledge Base aimed to compile a comprehensive resource database documenting the cultural and ecological knowledge of the Native people in each of the state's five major cultural regions. Attention was given to developing educational practices and local capacity to engage students in an ongoing process of cultural documentation; articulating the epistemological underpinnings of the indigenous knowledge systems and validating their applicability to contemporary problems; and developing a Regional Cultural Atlas that could be easily used by teachers for all grade levels and subject matter.

Elders and Cultural Camps established an Elders-in-Residence program and associated Cultural Camps in the schools and at University of Alaska rural campuses as a vehicle for integrating Alaska Native expertise into educational and scientific programs and services throughout the state. The initiative used subsistence camps as learning environments that engaged students and teachers in inquiry-based activities with local experts. The Alaska Native Knowledge Network assembled a roster of recognized Native experts and established guidelines for the protection of the cultural and intellectual

property rights of Native people in all areas of knowledge, tradition, and practice associated with Native cultures. Native people were responsible for defining such rights and establishing mechanisms for legal protection and redress where those rights were not respected.

Village Science Applications encompassed activities to foster Native students' interest in science-related careers, including documentation of science applications in everyday village life, exposure to scientists in action in field and laboratory settings, Alaska Native science camps, fairs and exploratoria, scientist-in-residence programs, and linkages with local agencies, businesses and industry in which scientists are employed.

Each initiative was implemented in one cultural region at a time on a rotational schedule from 1995 through 2000. Native Ways of Knowing and Teaching was carried out in the Yup'ik Region in 1995-1996, the Inupiaq Region in 1996-1997, the Athabascan Region in 1997-1998, the Aleut Region in 1998-1999 and the Tlingit-Haida Region in 1999-2000.

<u>Rural Systemic Initiative/Year</u>	1995-96	1996-97	1997-98	1998-99	1999-2000
Native Ways of Knowing/Teaching	Yup'ik Region	Iñupiaq Region	Athabascan Region	Aleut/Alut. Region	Southeast Region
Culturally Aligned Curriculum	Southeast Region	Yup'ik Region	Iñupiaq Region	Athabascan Region	Aleut/Alut. Region
Indigenous Science Knowledge Base	Aleut/Alut. Region	Southeast Region	Yup'ik Region	Iñupiaq Region	Athabascan Region
Elders and Cultural Camps	Athabascan Region	Aleut/Alut. Region	Southeast Region	Yup'ik Region	Iñupiaq Region
Village Science Applications	Iñupiaq Region	Athabascan Region	Aleut/Alut. Region	Southeast Region	Yup'ik Region

Source: AKRSI Phase I Final Report to the National Science Foundation

Phase I AKRSI (1995-2000) was anchored on the strength of major collaboration among the elders, the state, higher education, regional and local school districts, teachers, parents, students and national interest groups, including the Rural School and Community Trust. Partners were united in a common goal that concentrated on providing the students with high quality education and high performance.

Schools and Students Served

Twenty rural school districts participated in Phase I AKRSI activities. Together, these districts house 176 schools serving approximately 18,982 students—nearly 60% of all rural students in the state and 90% of rural Alaska Native students. These school districts serve primarily Native students and have historically posted the lowest student achievement scores in the state and nation. Teacher turnover rates range as high as 30% annually in many districts.

Teachers Served

Initially, AKRSI activities were concentrated in one or two districts in each of the five regions. In the second year, the number of schools doubled to include the majority of rural districts with a 50% or more Alaska Native student population. The 20 rural districts involved in Phase I AKRSI employed 1,806 certified personnel, 60% of the certified personnel serving rural schools. Only 6% of them were Native Alaskans.

Each of the state's five major cultural regions hosted an Academy of Elders made up of Native teachers, elders and practicing scientists and science teachers. Participants gathered for a week in a camp or village site where scientists and elders passed on their knowledge of some aspect of the local environment. The teachers then developed curricular applications for what they had

learned, checked them with the elders and scientists for accuracy, and piloted them in the classroom. Their refined units were compiled and posted to the AKRSI web site and put into publications for distribution to other teachers and schools, including those not directly involved in the initiative. All rural teachers have similarly benefited from professional development opportunities offered at the state and district levels and AKRSI-impacted curricula and policy changes.

Changes in Student Achievement 1995-2002

AKRSI clearly demonstrated the efficacy of a place-based strategy in strengthening rural schools and teachers and improving student achievement. The University of Alaska-Fairbanks made comparisons with the 28 non-AKRSI rural schools on measures of achievement in mathematics, dropout rates and first-time college entrance. Following is a summary of the findings.

Eighth Grade Mathematics Achievement

During the first seven years of implementation, AKRSI schools showed a net gain over non-AKRSI rural schools in the percentage of 8th graders scoring in the upper quartile on standardized mathematics achievement tests.

In 1995, only 17.4% of 8th graders in the partnership districts scored in the top quartile on the CAT-5, compared to 29.1% of students in non-AKRSI rural schools. By 1998, those percentages had changed to 24.3% and 30.1%, respectively. AKRSI schools showed a 6.9 percentage point increase while non-AKRSI rural schools showed a one-point increase. The gap between AKRSI and non-AKRSI rural schools narrowed from 11.7 percentage points to 5.8 (Figure 1).

In the three years since the introduction of the state benchmark examination, AKRSI schools posted a 3.9 percentage point gain in 8th graders scoring proficient or advanced in mathematics, compared to a .97-point loss for non-AKRSI rural schools and a 1.2-point gain statewide. On the 2002 examinations, the gap between AKRSI and non-AKRSI rural schools had decreased by 4.85 points and between AKRSI and schools statewide by 2.68 points. AKRSI students also outperformed Alaska Native students as a whole (Figure 2).

Tenth Grade Mathematics Achievement

With two years of data showing, AKRSI 10th graders scoring proficient or advanced on the state’s High School Qualifying Examination increased by 8.36 percentage points, from 19.95% to 28.31%. This gain was less than the 12.65-point gain in non-AKRSI rural schools and the 10.7-point gain statewide. However, it is a significant one-year gain for schools that have historically been the lowest performing schools in the state. Additionally, AKRSI schools in 2001 showed a 5.61-point differential over Alaska Native students as a whole (Figure 3).

Eleventh Grade Mathematics Achievement

At the 11th grade level, AKRSI students are moving out of the lower quartile in mathematics performance at a significantly higher rate than non-AKRSI students although non-AKRSI students are entering the top quartile at a faster pace than AKRSI students. Both groups showed substantial gains from 2000 to 2001, leaving the performance gap at that grade level largely intact.

Figure 1. Percent of Rural 8th Graders Scoring in the Top Quartile on CAT-5 1995-96 to 1998-99

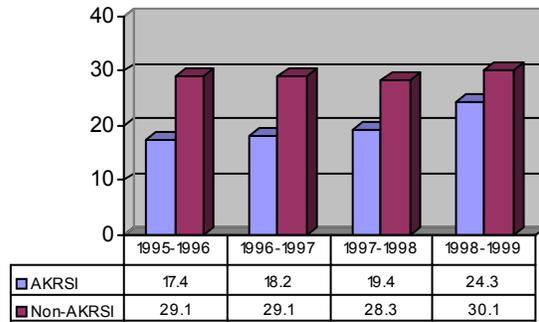


Figure 2. Percent of Rural 8th Graders Proficient/Advanced in Mathematics 2000, 2001, 2002

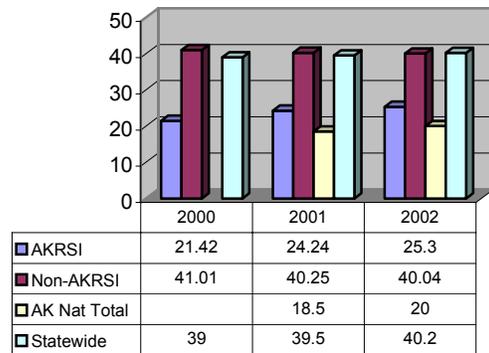
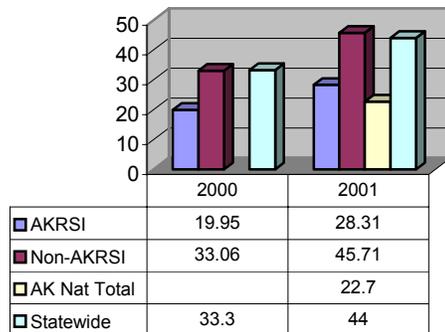


Figure 3. Percent of Rural 10th Graders Proficient/Advanced in Mathematics 2000, 2001



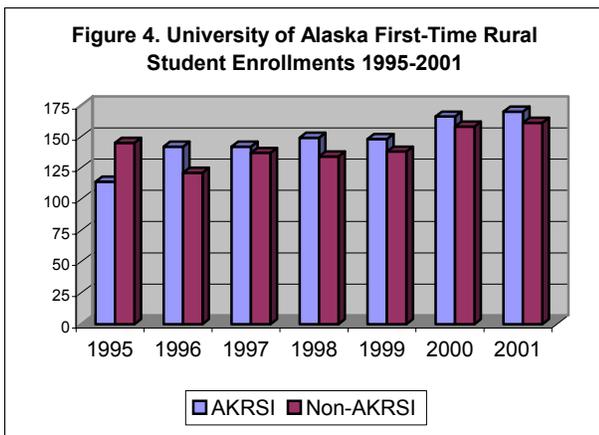
Data Source: AKRSI 2002 Annual Report

Place-Based Learning: Beyond the Test Scores

Graduation and College Enrollment at the University of Alaska

Student dropout rates for grades 7-12 in AKRSI partner schools declined from a mean of 4.4 in 1995 to 3.6 in 2000, a 0.8 percentage point change. At the same time, the dropout rates in non-AKRSI rural schools decreased from a mean of 2.7 to 2.4, or .03 percentage points.

AKRSI uses first-time freshman enrollment at the University of Alaska as another indicator of the success of its place-based approach. A comparison of those figures indicates that the number of first-time students from AKRSI districts increased by 19% in 1996, held in 1997, and increased every year thereafter at levels surpassing enrollment from the non-AKRSI schools (Figure 4). In 2001, first-time students from AKRSI districts numbered 170, up 49% over the number enrolled in 1995.



Data Source: AKRSI 2002 Annual Report

The Co-Directors of AKRSI, Ray Barnhardt, Angayuqaq Oscar Kawagley and Frank Hill were absolutely right in their observation that building an educational system with a strong foundation in the local culture produces positive effects in all indicators of

school success, including dropout rates, college attendance, and standardized achievement test scores.^{viii}

Statewide Policy and Practice

AKRSI's place-based focus has reached far beyond the 20 rural school districts with which it has worked most directly. Other accomplishments include:

- Increased interest in teacher education and college enrollment among Native students.
- More authentic assessment and evaluation practices for teachers and students that gives weight to indigenous knowledge and cultural imperatives.
- Widely accepted and state-adopted *Standards for Culturally Responsive Schools*, including Cultural Standards for Students, Educators, Schools, Elders, Community, and Curriculum
- *Guidelines for Nurturing Culturally Healthy Youth*.
- *Guidelines for Strengthening Indigenous Languages*.
- *Guidelines for Culturally Responsive School Boards*.
- Deep ties between the pre-service and in-service preparation of teachers that have led to effective revisions of their teaching methodology to include indigenous ways, values, and culture. *Guidelines for Preparing Culturally Responsive Teachers* have been developed for teacher development programs, schools districts and the Alaska Department of Education.
- *Native Ways of Knowing*, a section of the Alaska Curriculum Frameworks document providing guidelines for integrating indigenous knowledge in curriculum development.

AKRSI has demonstrated the power of place-based learning at its best.

After nearly a century of trying nearly every conceivable educational innovation and schooling configuration that professional educators and government officials could devise, with little noticeable variation in the generally dismal outcomes, a re-conception of the fundamental structure and foundation of education in rural Alaska has begun to emerge. The most significant feature of this re-conception is recognition of the educational potential and validity of the indigenous knowledge systems that are still in use in many rural villages throughout Alaska. With this recognition has come a re-awakening of Alaska Native people to the importance of assuming responsibility for the education of their children.”^{ix}

In his presentation to the 2003 National Indian Education Association conference,

Frank Hill shared a story of an Alaskan elder who, pointing to a star in the heavens, said, “That star has my name.” Emphasizing the importance of reaching beneath “surface culture” into the deep culture and environments of our places, and integrating indigenous knowledge systems into Western education, Hill challenged his listeners to “Use *your* star system to teach *your* kids.”

How powerful it would be if our education system could reach deeply into the cultures of our diverse society, honor their knowledge systems, and respect and integrate their ways of knowing in a manner that strengthens our communities, connects our children to their place in the universe, and helps them to meet and exceed rigorous standards all at the same time.

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ENDNOTES

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ⁱⁱ Hopson, Eben, “Inupiaq Education,” article, *Cross-Cultural Issues in Alaskan Education*, 1977.

ⁱⁱⁱ Alaska Department of Education “Discussion Points on No Child Left Behind,” January 2003

^{iv} Alaska Department of Education, *Improving School Performance — A Report to the Sixteenth Alaska Legislature*, Appendix B, "Extent of the At-Risk Problem," February 1, 1990.

^{vi} AKRSI Original proposal to NSF 1994

^{vii} Frank Hill, presentation to the 2003 National Indian Education Conference, Greensboro, NC

^{viii} Sharing Our Pathways, Vol. 5, Issue 4. September/October 2000.

^{ix} AKRSI Implementation Plan, 1995